# Call for contribution of expertise

CERN invites collaborating institutes and universities to contribute the expertise of their qualified employees to the activity described below.

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| *Start date:* June 2019 | *Duration:* One year, possible extension to a maximum of up to two years. |

*Project/Activity:* Design upgrade of a high precision current source for instrument calibration

*Detailed description of Activity:*

The CERN current calibrator is a high precision current source based used for the calibration of measurement devices for CERN power converters. This project proposes to upgrade the existing design in order to enhance its performance. This includes:

- Completing the existing simulation model for both the electronic and magnetic components
- Studying the electronic and magnetic circuits and proposing improvements to improve stability of the current source
- Producing and validating prototypes of the improved circuits

*Profile:* Master's degree in Electronics/Electrical engineering

*Specific details:*

Very good knowledge in analogue electronics. Good knowledge in measurement electronics and instrumentation. Experience with electronics simulation using Spice (in particular LTSpice). Knowledge of magnetic materials and transformer theory

*Status at CERN:* Associated Member of the Personnel (Project Associate).

Conditions in accordance with CERN's Staff Rules and Regulations and Administrative Circular No. 11. Subsistence allowance is payable by CERN to cover the additional cost arising from the individual's (and, as applicable, their family's) stay in the local area while performing activities at CERN.

*Option:* Collaborating institutes and universities can propose to support the activity of the qualified employees participating in this "Call for contribution of expertise" with students or other employees. Their status and Subsistence allowance when applicable will be adapted to their relation with their institutions

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| *Contact person:* Miguel Cerqueira Bastos | *Reference:* 2019_Q1_009 |